.

SEQUENCE LISTING <110> Klinikum der Universitaet Muenchen Grosshadern-Innenstadt <120> Leptin antagonist and method for the quantitative measuxement of leptin <130> LM01P002W0 <150> DE 103 53 953.4 <151> 2003-11-17 <160> 8 <170> PatentIn version 3.1 <210> 1 <211> 272 <212> PRT <213> Mus musculus <220> <221> MISC FEATURE <222> (1)..(270) <223> Xaa = unknown or other <400> 1 Xaa His Asn Pro Ile Pro Met Pro Pro Ala Ala Ala Gly Leu Leu Leu 5 Leu Ala Ala Gln Pro Ala Met Ala Glu Leu Val Met Thr Gln Ser Pro Lys Phe Met Ser Thr Ser Ile Gly Asp Arg Val Asn Ile Thr Cys Lys 40 Ala Thr Gln Asn Val Arg Thr Ala Val Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Gln Ala Leu Ile Phe Leu Ala Ser Asn Arg His Thr Gly Val Pro Ala Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Asn Val Lys Ser Glu Asp Leu Ala Asp Tyr Phe Cys 105 100 Leu Gln His Trp Asn Tyr Pro Leu Thr Phe Gly Ser Gly Thr Lys Leu 120 125

Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro

135

130

140

2/12

Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu 155 Asn Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly 170 Ser Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser 185 Lys Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp 200 Glu Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr 215 Ser Thr Ser Pro Ile Val Lys Ser Phe Asn Arg Gly Glu Cys Xaa Xaa Ser Arg Val Lys Arg Xaa Gln Ser Xaa Gly Gly Pro Gly Thr Pro Ile Arg Pro Ile Gly Xaa Pro Tyr Tyr Asn Ser Leu Gly Gly Gly Phe Gln 265 <210> 2 <211> 818 <212> DNA <213> Mus musculus <220> <221> misc feature <222> (1)...(818) <223> n = a, t, g, c, unknown or other <220> <221> CDS <222> (3)..(818) <223> na ngt cat aat cca ata cct atg cct acg gca gcc gct gga ttg tta 47 Xaa His Asn Pro Ile Pro Met Pro Thr Ala Ala Ala Gly Leu Leu 5 tta ctc gct gcc caa cca gcc atg gcc gag ctc gtg atg acc cag tct 95 Leu Leu Ala Ala Gln Pro Ala Met Ala Glu Leu Val Met Thr Gln Ser cca aaa ttc atg tcc aca tca ata gga gac agg gtc aat atc acc tgc 143 Pro Lys Phe Met Ser Thr Ser Ile Gly Asp Arg Val Asn Ile Thr Cys

3/12

aag Lys	gcc Ala	act Thr 50	cag Gln	aat Asn	gtt Val	cgt Arg	act Thr 55	gct Ala	gtt Val	acc Thr	tgg Trp	tat Tyr 60	caa Gln	cag Gln	aaa Lys	191
cca Pro	ggg Gly 65	cag Gln	tct Ser	cct Pro	caa Gln	gca Ala 70	ctg Leu	att Ile	ttc Phe	ttg Leu	gca Ala 75	tcc Ser	aac Asn	cgg Arg	cac His	239
act Thr 80	ggt Gly	gtc Val	cct Pro	gct Ala	cga Arg 85	ttc Phe	aca Thr	ggc Gly	agt Ser	gga Gly 90	tct Ser	GJÀ âââ	aca Thr	gat Asp	ttc Phe 95	287
act Thr	ctc Leu	acc Thr	att Ile	aac Asn 100	aat Asn	gtg Val	aaa Lys	tct Ser	gaa Glu 105	gac Asp	ctg Leu	gca Ala	gat Asp	tat Tyr 110	ttc Phe	335
tgt Cys	cta Leu	caa Gln	cat His 115	tgg Trp	aat Asn	tat Tyr	cct Pro	ctc Leu 120	acg Thr	ttc Phe	ggc Gly	tcg Ser	ggg Gly 125	aca Thr	aag Lys	383
ttg Leu	gaa Glu	ata Ile 130	aaa Lys	cgg Arg	gct Ala	gat Asp	gct Ala 135	gca Ala	cca Pro	act Thr	gta Val	tcc Ser 140	atc Ile	ttc Phe	cca Pro	431
														tgc Cys		4 79
ttg Leu 160	aac Asn	aac Asn	ttc Phe	tac Tyr	ccc Pro 165	aaa Lys	gac Asp	atc Ile	aat Asn	gtc Val 170	aag Lys	tgg Trp	aag Lys	att Ile	gat Asp 175	527
ggc Gly	agt Ser	gaa Glu	cga Arg	caa Gln 180	aat Asn	ggc Gly	gtc Val	ctg Leu	aac Asn 185	agt Ser	tgg Trp	act Thr	gat Asp	cag Gln 190	gac Asp	575
agc Ser	aaa Lys	gac Asp	agc Ser 195	acc Thr	tac Tyr	agc Ser	atg Met	agc Ser 200	agc Ser	acc Thr	ctc Leu	acg Thr	ttg Leu 205	acc Thr	aag Lys	623
gac Asp	gag Glu	tat Tyr 210	gaa Glu	cga Arg	cat His	aac Asn	agc Ser 215	tat Tyr	acc Thr	tgt Cys	gag Glu	gcc Ala 220	act Thr	cac His	aag Lys	671
aca Thr	tca Ser 225	act Thr	tca Ser	ccc Pro	att Ile	gtc Val 230	aag Lys	agc Ser	ttc Phe	aac Asn	agg Arg 235	gga Gly	gag Glu	tgt Cys	tag	719
taa														ccc Pro		767
	gcc Ala 255					Arg								gtt Val		815
aan Xaa																818

<210> 3 <211> 292 WO 2005/049655 PCT/EP2004/013043

<212> PRT

<213> Mus musculus

<220>

<221> MISC_FEATURE <222> (1)..(292)

<223> Xaa = any or other

<400> 3

Leu Ala Xaa Arg Gly Gly Gly Arg Lys Ile Xaa Phe Xaa Arg Glu Thr

Val Ile Met Lys Tyr Leu Xaa Ala Tyr Gly Pro Ala Ala Gly Leu Leu

Leu Leu Ala Ala Gln Pro Ala Met Ala Gln Val Lys Leu Leu Glu Ser

Gly Pro Gly Leu Val Ala Pro Ser Glu Ser Leu Ser Ile Thr Cys Thr

Ile Ser Gly Phe Ser Leu Thr Asp Asp Gly Val Ser Trp Ile Arg Gln

Pro Pro Gly Lys Gly Leu Glu Trp Leu Gly Val Ile Trp Gly Gly

Ser Thr Tyr Phe Asn Ser Leu Phe Lys Ser Arg Leu Ser Ile Thr Arg

Asp Asn Ser Lys Ser Gln Val Phe Leu Glu Met Asp Ser Leu Gln Thr 120

Asp Asp Thr Ala Met Tyr Tyr Cys Ala Lys His Asp Gly His Glu Thr

Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ser Lys

Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln 170

Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro 180 185

Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val 195 200 205

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser

215 220

Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys 230 235 240

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val 245 250

Pro Arg Asp Cys Thr Ser His His His His His Xaa Ala Ser Leu 260 265

Val Val Ala Val Ala Leu His Ser Phe Val Xaa Ile Lys Ala Asn Arg 275 285

Arg Pro Ala Xaa 290

<210> 4

<211> 876

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (1)..(876)

 $\langle 223 \rangle$ n = a, t, g, c, unknown or other

<220>

<221> CDS

<222> (1)..(876)

· <223>

<400> 4

gtc ata atg aaa tac ctt ttn gcc tac ggg cca gcc gct gga ttg tta 96 Val Ile Met Lys Tyr Leu Xaa Ala Tyr Gly Pro Ala Ala Gly Leu Leu

tta ctc gct gcc caa cca gcc atg gcc cag gtg aaa ctg ctc gag tca 144 Leu Leu Ala Ala Gln Pro Ala Met Ala Gln Val Lys Leu Leu Glu Ser

gga cct ggc ctg gtg gcg ccc tca gag agc ctg tcc atc aca tgc act 192 Gly Pro Gly Leu Val Ala Pro Ser Glu Ser Leu Ser Ile Thr Cys Thr

atc tca ggg ttc tca tta acc gac gat ggt gta agc tgg att cgg cag 240 Ile Ser Gly Phe Ser Leu Thr Asp Asp Gly Val Ser Trp Ile Arg Gln

cct cca gga aag ggt ctg gag tgg ctg gga gta ata tgg ggt gga 288

Pro	Pro	Gly	Lys	Gly 85	Leu	Glu	Trp	Leu	Gly 90	Val	Ile	Trp	Gly	Gly 95	Gly	
	aca Thr															336
	aac Asn															384
	gac Asp 130															432
atg Met 145	gac Asp	tat Tyr	tgg Trp	ggt Gly	caa Gln 150	gga Gly	acc Thr	tca Ser	gtc Val	acc Thr 155	gtc Val	tcc Ser	tca Ser	tcc Ser	aaa Lys 160	480
	aca Thr															528
act Thr	aac Asn	tcc Ser	atg Met 180	gtg Val	acc Thr	ctg Leu	gga Gly	tgc Cys 185	ctg Leu	gtc Val	aag Lys	ggc Gly	tat Tyr 190	ttc Phe	cct Pro	576
gag Glu	cca Pro	gtg Val 195	Thr	gtg Val	acc Thr	tgg Trp	aac Asn 200	tct Ser	gga Gly	tcc Ser	ctg Leu	tcc Ser 205	agc Ser	ggt Gly	gtg Val	624
cac His	acc Thr 210	ttc Phe	cca Pro	gct Ala	gtc Val	ctg Leu 215	cag Gln	tct Ser	gac Asp	ctc Leu	tac Tyr 220	act Thr	ctg Leu	agc Ser	agc Ser	672
tca Ser 225	gtg Val	act Thr	gtc Val	ccc Pro	tcc Ser 230	agc Ser	acc Thr	tgg Trp	ccc Pro	agc Ser 235	gag Glu	acc Thr	gtc Val	acc Thr	tgc Cys 240	720
aac Asn	gtt Val	gcc Ala	His	ccg Pro 245	Ala	agc Ser	Ser	Thr	aag Lys 250	Val	gac Asp	aag Lys	aaa Lys	att Ile 255	gtg Val	768
	agg Arg											taa		agc Ser 270		816
	gtg Val															864
_	cct Pro	_														876
<210> 5 <211> 832 <212> DNA <213> Mus musculus																

<213> Mus musculus

<220>

<221> misc_feature

WO 2005/049655 PCT/EP2004/013043

<222> (1)..(832) $\langle 223 \rangle$ n = a, t, g, c, any or other <220> <221> CDS <222> (38)..(814) <223> <400> 5 atnotttntt gttcctttct atgeggccca geeggee atg gee eag gte eag etg 55 Met Ala Gln Val Gln Leu cag gag tca gga act gaa gtg gta aag cct ggg gct tca gtg aag ttg 103 Gln Glu Ser Gly Thr Glu Val Val Lys Pro Gly Ala Ser Val Lys Leu 10 tcc tgc aag gct tct ggc tac atc ttc aca agt tat gat ata gac tgg 151 Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Ser Tyr Asp Ile Asp Trp 25 gtg agg cag acg cct gaa cag gga ctt gag tgg att gga tgg att ttt 199 Val Arg Gln Thr Pro Glu Gln Gly Leu Glu Trp Ile Gly Trp Ile Phe 40 247 cct gga gag ggg agt act gaa tac aat gag aag ttc aag ggc agg gcc Pro Gly Glu Gly Ser Thr Glu Tyr Asn Glu Lys Phe Lys Gly Arg Ala aca ctg agt gta gac aag tcc tcc agc aca gcc tat atg gag ctc act 295 Thr Leu Ser Val Asp Lys Ser Ser Ser Thr Ala Tyr Met Glu Leu Thr agg ctg aca tct gag gac tct gct gtc tat ttc tgt gct aga ggg gac 343 Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys Ala Arg Gly Asp 90 tac tat agg ege tac ttt gae ttg tgg gge caa ggg ace acg gte ace 391 Tyr Tyr Arg Arg Tyr Phe Asp Leu Trp Gly Gln Gly Thr Thr Val Thr gtc tcc tca tgt gga ggc ggt tca ggc gga ggt ggc tct ggc ggt ggc 439 Val Ser Ser Cys Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly gga tot gac att gag otc acc cag tot coa gca atc atg tot gca tot 487 Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser cca ggg gag agg gtc acc atg acc tgc agt gcc agc tca agt ata cgt 535 Pro Gly Glu Arg Val Thr Met Thr Cys Ser Ala Ser Ser Ser Ile Arg tac ata tat tgg tac caa cag aag cet gga tee tee eec aga ete etg 583 Tyr Ile Tyr Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Arg Leu Leu att tat gac aca tcc aac gtg gct cct gga gtc cct ttt cgc ttc agt 631 Ile Tyr Asp Thr Ser Asn Val Ala Pro Gly Val Pro Phe Arg Phe Ser

190

185

WO 2005/049655 8/12 ggc agt ggg tct ggg acc tct tat tct ctc aca atc aac cga atg gag 679 Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Asn Arg Met Glu 200 gct gag gat gct gcc act tat tac tgc cag gag tgg agt ggt tat cct 727 Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Glu Trp Ser Gly Tyr Pro 220 225 ctc acg ttc ggc tcg ggc acc aag cgg gaa atc aaa cgg gcg gcc gca 775 Leu Thr Phe Gly Ser Gly Thr Lys Arg Glu Ile Lys Arg Ala Ala Ala 235 240 ggt gcg ccg gtg ccg tat ccg gat ccg ctg gaa ccg cgt gccgcataga 824 Gly Ala Pro Val Pro Tyr Pro Asp Pro Leu Glu Pro Arg 250 255 ctgttgaa 832 <210> 6 <211> 259 <212> PRT <213> Mus musculus <220> <221> misc feature <222> (1)..(832)n = a, t, g, c, any or other <223> <400> 6 Met Ala Gln Val Gln Leu Gln Glu Ser Gly Thr Glu Val Val Lys Pro 10 Gly Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr 20 Ser Tyr Asp Ile Asp Trp Val Arg Gln Thr Pro Glu Gln Gly Leu Glu 35 40 Trp Ile Gly Trp Ile Phe Pro Gly Glu Gly Ser Thr Glu Tyr Asn Glu Lys Phe Lys Gly Arg Ala Thr Leu Ser Val Asp Lys Ser Ser Ser Thr 65 . 70 Ala Tyr Met Glu Leu Thr Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr 85

Phe Cys Ala Arg Gly Asp Tyr Tyr Arg Arg Tyr Phe Asp Leu Trp Gly 100

Gln Gly Thr Thr Val Thr Val Ser Ser Cys Gly Gly Gly Ser Gly Gly 115 120 125

WO 2005/049655 PCT/EP2004/013043

9/12

Gly Gly Ser Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro 130 135 140

Ala Ile Met Ser Ala Ser Pro Gly Glu Arg Val Thr Met Thr Cys Ser 145 150 155 160

Ala Ser Ser Ser Ile Arg Tyr Ile Tyr Trp Tyr Gln Gln Lys Pro Gly
165 170 175

Ser Ser Pro Arg Leu Leu Ile Tyr Asp Thr Ser Asn Val Ala Pro Gly
180 185 190

Val Pro Phe Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu 195 200 205

Thr Ile Asn Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln 210 215 220

Glu Trp Ser Gly Tyr Pro Leu Thr Phe Gly Ser Gly Thr Lys Arg Glu 225 230 235 240

Ile Lys Arg Ala Ala Ala Gly Ala Pro Val Pro Tyr Pro Asp Pro Leu 245 250 255

Glu Pro Arg

<210> 7

<211> 1252

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (1)..(1252)

 $\langle 223 \rangle$ n = a, t, g, c, unknown or other

<400> 7

tegetgeeca accagecatg geccaggtga aactgetega gteaggaect ggeetggtgg 60 cgccctcaga gagcctgtcc atcacatgca ctatctcagg gttctcatta accgacgatg 120 gtgtaagctg gattcggcag cctccaggaa agggtctgga gtggctggga gtaatatggg 180 gtggtggaag cacatacttt aattcacttt tcaaatccag actgagcatc accagggaca 240 actctaagag ccaagttttc ttagaaatgg acagtctaca aactgatgac acagccatgt 300 actactgcgc caaacatgac ggacacgaga ctatggacta ttggggtcaa ggaacctcag 360 tcaccgtctc ctcatccaaa acgacacccc catctgtcta tccactggcc cctggatctg 420 ctgcccaaac taactccatg gtgaccctgg gatgcctggt caagggctat ttccctgagc 480

cagtgacagt	gacctggaac	tctggatccc	tgtccagcgg	tgtgcacacc	ttcccagctg	540
tcctgcagtc	tgacctctac	actctgagca	gctcagtgac	tgtcccctcc	agcacctggc	600
ccagcgagac	cgtcacctgc	aacgttgccc	acccggccag	cagcaccaag	gtggacaaga	660
aaattgtgcc	cagggattgt	actagtggtg	gcggaggtag	tggtggcgga	ggtagcggtg	720
gcggaggttc	tggtggcgga	ggttccgaat	tcctcgaggt	gcccatccaa	aaagtccaag	780
atgacaccaa	aaccctcatc	aagacaattg	tcaccaggat	caatgacatt	tcacacacgc	840
agtcagtctc	ctccaaacag	aaagtcaccg	gtttggactt	cattcctggg	ctccacccca	900
tcctgacctt	atccaagatg	gaccagacac	tggcagtcta	ccaacagatc	ctcaccagta	960
tgccttccag	aaacgtgatc	caaatatcca	acgacctgga	gaacctccgg	gatcttcttc	1020
acgtgctggc	cttctctaag	agctgccact	tgccctgggc	cagtggcctg	gagaccttgg	1080
acagcctggg	gggtgtcctg	gaagcttcag	gctactccac	agaggtggtg	gccctgagca	1140
ggctgcaggg	gtctctgcag	gacatgctgt	ggcagctgga	cctcagccct	gggtgcacta	1200
gtcatcatca	tcatcatcat	taagctagcc	tagtggtggc	ggtggctctc	ca	1252

<210> 8

<211> 401

<212> PRT

<213> Mus musculus

<220>

<221> MISC_FEATURE

<222> (1)..(401)

<223> Xaa = unknown or other

<400> 8

Met Ala Gln Val Lys Leu Leu Glu Ser Gly Pro Gly Leu Val Ala Pro

Ser Glu Ser Leu Ser Ile Thr Cys Thr Ile Ser Gly Phe Ser Leu Thr

Asp Asp Gly Val Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu

Trp Leu Gly Val Ile Trp Gly Gly Gly Ser Thr Tyr Phe Asn Ser Leu

Phe Lys Ser Arg Leu Ser Ile Thr Arg Asp Asn Ser Lys Ser Gln Val 65

Phe Leu Glu Met Asp Ser Leu Gln Thr Asp Asp Thr Ala Met Tyr Tyr 85 90 95

WO 2005/049655 PCT/EP2004/013043

Cys Ala Lys His Asp Gly His Glu Thr Met Asp Tyr Trp Gly Gln Gly 100 105 110

Thr Ser Val Thr Val Ser Ser Ser Lys Thr Thr Pro Pro Ser Val Tyr 115 120 125

Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr Leu 130 135 140

Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr Trp 145 150 155 160

Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu 165 170 175

Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser Ser 180 185 190

Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro Ala Ser 195 200 205

Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Thr Ser Gly 210 215 220

Gly Gly Ser Glu Phe Leu Glu Val Pro Ile Gln Lys Val Gln Asp Asp 245 250 255

Thr Lys Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser 260 265 270

His Thr Gln Ser Val Ser Ser Lys Gln Lys Val Thr Gly Leu Asp Phe 275 280 285

Ile Pro Gly Leu His Pro Ile Leu Thr Leu Ser Lys Met Asp Gln Thr 290 295 300

Leu Ala Val Tyr Gln Gln Ile Leu Thr Ser Met Pro Ser Arg Asn Val 305 310 315 320

Ile Gln Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Val 325 330 335

Leu Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala Ser Gly Leu Glu

WO 2005/049655 PCT/EP2004/013043

340 345 350

Thr Leu Asp Ser Leu Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr 355 360 365

Glu Val Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Met Leu 370 375 380

Trp Gln Leu Asp Leu Ser Pro Gly Cys Thr Ser His His His His 385 390 395 400

His